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An output buffer with a pull down circuit. The pull down circuit is coupled between a second power line and a pad, and has a resistor, a diode and an electrostatic discharge protection component. The resistor deposited on the substrate of a first conductivity type includes a well region of a second conductivity type. The resistor and the electrostatic discharge protection component are connected in series between the pad and the second power line. The diode is formed in the well region, construct by the PN junction formed between a first doped region of the first conductivity type and the well region. The first doped region is electrically floated in the well regions. During an electrostatic discharge event, the pad is instantaneously connected to the first doped region which will help to boost the turn-on of the electrostatic discharge circuit, and further enhance the electrostatic protection effect.

IN THE CLAIMS

Please replace the currently pending Claims 3, 8, 14 and 34 with the amended Claims 3, 8, 14 and 34, which are set forth below. Please cancel claim 36 without prejudice. (Appendix A, which is enclosed herewith, shows how these claims were amended.)

2  
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3. (Amended) The output buffer of claim 1, wherein the electrostatic discharge protection element is a MOS transistor comprising a gate, a drain and a source, the drain being coupled to the second end of the resistor and